

Abstract

Background: Pregnancy induces many physiological adaptative changes on the female body. All of them produce a greater demand on the cardiovascular system during pregnancy, in comparison to the non-pregnant state. These changes are needed to allow the maternal body to adapt to the increased metabolic requirements represented by the fetoplacental unit.

Aim of the Essay: The aim of this essay is to identify the principal aspects of anesthetic management of pregnant cardiac patients undergoing cardiac surgery that can be associated with better results regarding maternal and fetal morbidity & mortality.

Conclusion: Normal pregnancy is associated with marked hemodynamic changes within the maternal circulation, which includes the increase in cardiac output and plasma volume and reductions in peripheral resistance and arterial pressure, together with marked alterations in the activity of various neurohumoral systems and in vascular and endothelial function.

Keyword: Anesthetic Management, Cardiac Surgeries, Pregnancy

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List of Abbreviations

Abbrev.	Meaning
ACT	: Activated clotting time
ADP	: Adenosine diphosphate
AHA/ACC	: American Heart Association/American College of Cardiology
AMI	: Acute myocardial infarction
ARDS	: Acute respiratory distress syndrome
ASD	: Atrial septal defect
AT	: Antithrombin
AV	: Atrio-ventricular
CO	: Cardiac output
COX-1	: Cyclooxygenase
CPB	: Cardiopulmonary bypass
CRP	: C-reactive protein
EACA	: Epsilon-aminocaproic acid
ECG	: Electrocardiographic
ECV	: Electrical cardioversion
FEV1	: Forced expiratory volume in 1 second

List of Abbreviations

FHR	: Fetal heart rate
FWS	: Fetal warfarin syndrome
HiTT	: High-dose thrombin time
IM	: Intramuscularly
IMA	: Internal mammary artery
INR	: International normalized ration
IV	: Intravenous
LCOS	: Low cardiac output syndrome
LMWH	: Low molecular weight heparin
MAC	: Minimum alveolar concentration
MI	: Myocardial infarction
NSTEM	: Non-ST-elevation myocardial infarction
OPCAB	: Beating-heart off-pump coronary artery bypass grafting
PCI	: Percutaneous coronary intervention
PCO ₂	: Carbon dioxide partial pressure
PO ₂	: Oxygen partial pressure
PVCs	: Premature ventricular contractions
PVR	: Pulmonary vascular resistance
rVIIa	: Recombinant factor VII

List of Abbreviations

STEMI	: ST-elevation myocardial infarction
STS/SCA	: The Society of Thoracic Surgeons and The Society of Cardiovascular Anesthesiologists
SV	: Stroke volume
SVR	: Systemic vascular resistance
TA	: Tranexamic acid
TRALI	: Transfusion-related acute lung injury
VADs	: Ventricular assist devices
VC	: Vital capacity
VT	: Ventricular tachycardia

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Introduction





Aim of the Essay





CHAPTER (1)

Physiological Changes During Pregnancy





CHAPTER (2)

Preoperative Management of Pregnant Cardiac Patients Before Cardiac Surgery





CHAPTER (3)

Intraoperative Management of Pregnant Cardiac Patient During Cardiac Surgery





CHAPTER (4)

Postoperative Management of Pregnant Cardiac Patients After Cardiac Surgery





Summary





References

